

REMARKS/ARGUMENTS

Claims 1-3, 7-9, 11, 12 and 14-51 are pending. By this Amendment, claim 13 is cancelled without prejudice or disclaimer, and claims 16-19 are amended. Support for the amendments to claims 16-19 can be found, for example, in previously presented claims 1, 10 and 16-19. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Objection to the Claims

The Office Action objects to claims 13 and 16-19. By this Amendment, claim 13 is cancelled, and 16-19 are amended to obviate the objection. Accordingly, reconsideration and withdrawal of the objection are respectfully requested.

Rejections Under 35 U.S.C. §103

A. Huffer and Allgaier

The Office Action rejects claims 1-3, 7, 9, 11-32, 35-37 and 39-51 under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. US 2005/0090611 to Huffer et al. ("Huffer") in view of U.S. Patent No. 6,677,293 to Allgaier et al. ("Allgaier"). By this Amendment, claim 13 is cancelled, rendering the rejection moot as to that claim. As to the remaining claims, Applicants respectfully traverse the rejection.

Claim 1 recites "[a]n aqueous polymer dispersion obtained by emulsion polymerization of ethylenically unsaturated monomers in an aqueous medium in the presence of at least one free radical polymerization initiator and at least one stabilizer; wherein ... the at least one stabilizer comprises at least one amphiphilic polymer comprising one or more hydrophobic units A and one or more hydrophilic units B; the one or more hydrophobic units A are formed from a polyisobutene block ... the one or more hydrophilic units B are formed

from at least one alkylene oxide ... and the at least one amphiphilic polymer has an ABA structure" (emphasis added). Claim 29 recites "[a]n aqueous polymer dispersion obtained by emulsion polymerization of ethylenically unsaturated monomers in an aqueous medium in the presence of at least one free radical polymerization initiator and at least one stabilizer; wherein ... at least one stabilizer comprises at least one amphiphilic polymer comprising one or more hydrophobic units A and one or more hydrophilic units B; the one or more hydrophobic units A are formed from a polyisobutene block ... and the at least one amphiphilic polymer has an ABA structure" (emphasis added). Huffer and Allgaier do not disclose or suggest such dispersions.

Huffer and Allgaier would not have rendered claim 1 obvious at least because Huffer teaches away from dispersions as recited in claims 1 and 29. *See* MPEP §2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)) ("A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (emphasis in original)).

The amphiphilic stabilizers in claims 1 and 29 are triblock polymers with an ABA structure. The A blocks are hydrophobic units formed from polyisobutylene blocks and the B block is a hydrophilic unit. Because of the ABA structure, the triblock polymers have a predominately lipophilic character (there are more hydrophobic blocks than hydrophilic blocks). Huffer clearly teaches away from employing polyisobutylene compounds with a predominately lipophilic character.

Huffer discloses particular amphiphilic compounds that may be used in oil-in-water emulsions. *See* Huffer, Abstract. Huffer identifies various known compounds that may be used as emulsifiers. *See* Huffer, paragraph [0002]. Included among such compounds are compounds having polyisobutylene groups and a predominately lipophilic character. *See* Huffer, paragraph [0002]. Huffer clearly states that such known emulsifiers, including

compounds having polyisobutylene groups and a predominately lipophilic character, present severe disadvantages:

The abovementioned compounds known from the prior art are generally unsuitable or only poorly suitable as emulsifiers for oil-in-water emulsions. They furthermore have various disadvantages with regard to preparation and/or product properties. In the case of some compounds, by-products are obtained in different yields in the synthesis and--unless they are removed--can make it more difficult to establish a constant viscosity of the emulsifier. Disadvantages may also arise in the preparation of emulsions; frequently, the emulsions have insufficient stability so that phase separation occurs during storage. The emulsifiers used must therefore be employed in high concentrations in order to permit the formation of a stable emulsion.

See Huffer, paragraph [0008] (emphasis added). The stated objective of Huffer is to provide emulsifiers that do not have the disadvantages set forth in the above-quoted paragraph. That is, the very purpose of Huffer is to provide emulsifiers for use instead of compounds having polyisobutylene groups and a predominately lipophilic character, such as the stabilizers recited in claims 1 and 29.

The Office Action asserts that it would have been obvious to incorporate the ABA triblock polymers of Allgaier into the emulsion-making processes of Huffer. See Office Action, page 4. Applicants submit that one of ordinary skill would not have made such a modification. To make such a modification would require ignoring the explicit teachings of Huffer with regard to the usefulness of such polymers.

Allgaier discloses amphiphilic diblock compounds having an AB structure (same amounts of a hydrophilic block and a hydrophobic block). See Allgaier, column 2, line 64 to column 3, line 6. Allgaier also discloses amphiphilic triblock compounds having either an ABA structure or a BAB structure. See Allgaier, column 3, lines 7 to 9. That is, Allgaier discloses triblock polymers having a predominately lipophilic character (two hydrophobic blocks and one hydrophilic block) and triblock polymer having a predominately hydrophilic

character (two hydrophilic blocks and one hydrophobic block). In view of the teachings of Huffer, as described above, one of ordinary skill in the art would not select a triblock polymer having a predominately lipophilic character from the compounds disclosed in Allgaier. If a skilled artisan would combine Huffer and Allgaier at all, he or she would certainly select either the AB diblock compounds or the triblock compounds having a predominately hydrophilic character of Allgaier – not the triblock compounds having a predominately hydrophobic character.

As Huffer teaches away from incorporating triblock polymers with an ABA structure, in which the A blocks are hydrophobic units formed from polyisobutylene blocks and the B block is a hydrophilic unit, into the disclosed emulsification processes, Huffer and Allgaier fail to suggest the combination of features recited in claims 1 and 29.

As explained, claims 1 and 29 would not have been rendered obvious by Huffer and Allgaier. Claims 2, 3, 7, 9, 11, 12, 14-28, 30-32, 35-37 and 39-51 depend variously from claims 1 and 29 and, thus, also would not have been rendered obvious by Huffer and Allgaier. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Huffer, Allgaier and Lange

The Office Action rejects claims 8 and 38 under 35 U.S.C. §103(a) over Huffer in view of Allgaier U.S. Patent Application Publication No. US 2004/0171759 to Lange et al. ("Lange"). Applicants respectfully traverse the rejection.

Huffer and Allgaier fail to disclose or suggest each and every feature of claims 1 and 29 for at least the reasons discussed above. Lange fails to remedy the deficiencies of Huffer and Allgaier. Lange is cited for its alleged disclosure of functionalization of polyisobutenes. See Office Action, page 6. However, Lange, like Huffer and Allgaier, fails to provide

guidance that would lead a skilled artisan to incorporate triblock polymers with an ABA structure, in which the A blocks are hydrophobic units formed from polyisobutylene blocks and the B block is a hydrophilic unit, into the emulsification processes of Huffer.

Accordingly, the combination of references fails to disclose or suggest each and every feature of claims 1 and 29.

As explained, claims 1 and 29 would not have been rendered obvious by Huffer, Allgaier and Lange. Claims 8 and 38 depend from claims 1 and 29, respectively, and, thus, also would not have been rendered obvious by Huffer, Allgaier and Lange. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Huffer, Allgaier and Candau

The Office Action rejects claims 33 and 34 under 35 U.S.C. §103(a) over Huffer in view of Allgaier and U.S. Patent Application Publication No. US 2003/0129151 to Candau et al. ("Candau"). Applicants respectfully traverse the rejection.

Huffer and Allgaier fail to disclose or suggest each and every feature of claim 29 for at least the reasons discussed above. Candau fails to remedy the deficiencies of Huffer and Allgaier. Candau is cited for its alleged disclosure of an amphiphilic copolymer comprising at least one hydrophilic block and at least one hydrophobic block, including propylene oxide units. *See* Office Action, page 7. However, Candau, like Huffer and Allgaier, fails to provide guidance that would lead a skilled artisan to incorporate triblock polymers with an ABA structure, in which the A blocks are hydrophobic units formed from polyisobutylene blocks and the B block is a hydrophilic unit, into the emulsification processes of Huffer. Accordingly, the combination of references fails to disclose or suggest each and every feature of claim 29.

As explained, claim 29 would not have been rendered obvious by Huffer, Allgaier and Candau. Claims 33 and 34 depend from claim 29 and, thus, also would not have been rendered obvious by Huffer, Allgaier and Candau. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For the foregoing reasons, Applicants submit that claims 1-3, 7-9, 11, 12 and 14-51 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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